INDEX

HIGH ENERGY CHEMISTRY

Volume 1, 1967

HIGH ENERGY CHEMISTRY

Volume 1, 1967

(A translation of Khimiya Vysokikh Énergii)

A

Abramova, T. M. - 274
Akopyan, M. E. - 83
Aleksenko, Yu. N. - 402
Alfimov, M. V. - 201

B

Bagdasar'yan, Kh. S. - 108, 168, 270, 295
Bakh, N. A. - 390
Balandin, A. A. - 484
Barsova, L. I. - 484
Bazhin, N. M. - 75
Beér, A. A. - 31
Belevskii, V. N. - 216
Bel'ferman, A. L. - 359
Belyi, A. A. - 300
Bentsa, V. M. - 381
Bochin, V. P. - 159
Boldyrev, V. V. - 153, 223, 332
Borovkova, L. Ya. - 295
Breslav, Yu. A. - 56
Brodskaya, G. A. - 292
Brodskii, A. M. - 2, 402
Buben, N. Ya. - 61, 67, 449
Bugaenko, L. T. - 145, 216, 421, 489, 529
Burzel', F. B. - 230
Byakov, V. M. - 316

C

Chang Yen-An - 145
Chernyak, N. Ya. - 188
Chernyshev, V. V. - 316
Chervetsova, I. N. - 450
Chervochkin, É. N. - 237, 526
Chibisov, A. K. - 465
Chkheidze, I. I. - 282, 409, 449

D

Dar'eva, É. P. - 274
Denisik, S.A. - 440
Deribas, A. A. - 153
Dmitriev, L. A. - 175
Do Kim Tyung - 99
Dobryakova, G. P. - 150
Dogadkin, B. A. - 115
Dolin, P. I. - 127, 132, 156
Dzantiev, B.G. - 11, 91, 95, 164
Dzhagatspanyan, R. V. - 364, 395

E

Egunov, A. V. - 172
Ermolaev, V. K. - 75
Ershov, B. G. - 25, 139, 249, 325, 414, 478, 484
Evdokimov, V. F. - 40

F

Fedoseeva, T. S. - 212
Fel', N. S. - 132
Filatov, É. S. - 7, 374
Filippov, M. T. - 396
Firsov, V.G. - 337, 340, 343
Firsova, L. P. - 99
Florentiev, M. M. - 402
Fogel', Ya. M. - 88
Fomenko, A. S. - 274
Frankevich, E.L. 497, 501

G

Gagarin, S. G. - 518
Galins, A. A. - 274
Generalova, V. A. - 279
Gil'burd, M. M. - 359
Glagolev, V. L. - 182, 247
Gordeeva, V. A. - 247
Grigor'eva, L. P. - 325
Gromov, V. V. - 45
Gur'ev, M. V. - 38, 78
Gusev, Yu. K. - 531

I

Il'cheva, Z. F. - 51
Isupov, V. K. - 531
Ivanov, V. L. - 387

K

Kabakchi, A. M. - 450
Kabakchi, S. A. - 121, 127, 156, 320
Kadenatsi, B. M. - 247, 504
Kamenetskaya, S. A. - 175
Kaplan, I. G. - 447
Kapyshev, V. K. - 159
Karaseva, L. G. - 45
Karpov, V. L. - 493
Kartasheva, L. I. - 18
Karyakin, A. V. - 465
Katkova, N. M. - 75
Kayushin, L. P. - 242
Khait, Yu. L. - 237, 526
Khodzhaev, O. F. - 139, 325
Khudyakov, G. N. - 435
Kirin, I. S. - 531
Klinshpont, É. P. - 207, 306
Kobzev, Yu. N. - 435
Kolbanovskii, Yu. A. - 427, 510, 518
Koltan, L. - 374
Koltap, L. - 7
Kondrat'ev, V. A. - 168
Koritskii, A. T. - 105, 194
Korobkin, V. V. - 172
Kosorotov, V. I. - 396
Kotov, A. G. - 56, 312, 471
Kotov, B. B. - 254
Kovalev, Yu. V. - 108
Kozlov, G. I. - 435
Kozlov, V. T. - 115, 444
Krivenkova, P. G. - 504
Kryukova, A. B. - 444
Kupriyanov, S. E. - 78
Kuzin, I. A. - 40
Kuz'min, M. G. - 387
Kuz'minskii, A. S. - 212

L

Lapteva, F. S. - 316
Larin, V. A. - 390

Lebedev, S. N. - 440
Lebedev, Ya. S. - 242
Loginov, Yu. V. - 83
Lykhin, V. M. - 223
Lyu, É. - 478

M

Makarov, I. E. - 414
Maksimov, A. I. - 150
Malama, Yu. G. - 440
Margolin, D. M. - 51
Masterova, M. N. - 427
Medvinskii, A. A. - 332
Milinchuk, V. K. - 207, 306
Milyutinskaya, R. I. - 108
Moin, F. B. - 359
Moralev, V. M. - 489
Myasishcheva, G. G. - 337, 340, 343

N

Neimark, I. E. - 504
Nesmeyanov, An. N. - 7, 374
Nezhevenko, M. A. - 316
Nikol'skii, V. G. -61

O

Obukhov, Yu. V. - 337, 340, 343
Ovchinnikov, A. A. - 300

P

Petrukhin, V. I. - 245
Pikaev, A. K. - 18, 25, 139, 325, 414, 478
Pirogov, G. N. - 72
Plotnikov, V. G. - 447
Poddubnii, I. Ya. - 40
Polak, L. S. - 188, 230, 237, 440, 518, 526
Polyak, L. S. - 427
Polyakova, G. N. - 88
Ponomarev, L. I. - 245
Povolotskaya, O. S. - 421
Prokoshkin, Yu. D. - 245
Pshezhetskii, S. Ya. - 56, 175, 471
Pukhal'skaya, G. V. - 471
Pulatova, M. K. - 242

R

Reisig, V. A. - 514
Roganov, V. S. - 337, 340, 343
Roginskii, V. A. -254
Ryabova, A. A. - 145, 529

S

Safin, Yu. A. - 364
Salikhov, K. M. - 332
Serikov, L. V. - 431
Shaburkina, V. I. - 510
Shamonina, N. F. - 312
Sharpatyi, V. A. - 292, 475
Shatrov, V. D. - 182
Shchegolev, G. M. - 514
Shcherbakova, A.S. - 188
Shchipachev, V. S. - 230
Shekk, Yu. B. - 201
Shevchuk, V. U. - 359
Shishkov, A. V. - 95, 164
Shorin, S. N. - 226
Shubin, V. N. - 121, 127, 156, 249, 320
Shvedchikov, A. P. - 11, 91
Shvindt, N. N. - 465
Sichkar', V. P. - 493
Sinitsyna, Z. A. - 270
Skvortsov, B. V. - 465
Slovokhotova, N. A. - 51
Sokolova, M. A. - 40
Spitsyn, Vikt. I. - 72, 484
Stadnik, S. A. - 514
Starodubtsev, S. V. - 253
Sud'bina, E. N. - 242
Sukhov, F. F. - 51
Sultanov, A. - 279, 475
Sumin, L. V. - 38, 460
Suris, A. L. - 226
Suvorov', L. Ya. - 343
Svettsov, V. I. - 150
Syrvatka, B. G. - 359

T

Tarasova, Z. N. - 115
Temkin, A. Ya. - 2, 368
Terekhov, V. D. - 51
Tikhomirov, M. V. - 460
Tochin, V. A. - 61, 67
Trofimov, V. I. - 282, 409, 449
Tsereteli, I. Yu. - 40

V

Vaisberg, S. É. - 493
Veselovskaya, N. V. - 390
Vilesov, F. I. - 381
Virin, L. I. - 364
Vladimirova, V. I. - 504
Volkov, S. A. - 38
Vorob'ev, A. A. - 431

Y

Yakimchenko, O. E. - 387

Z

Zagorets, P. A. - 31
Zaitsev, N. B. - 40
Zakhariev, A. I. - 31
Zakharov, Yu. A. - 431
Zakurin, N. V. - 159
Zarko, É. E. - 153
Zhabrova, G. M. - 247, 450, 504
Zolotarevskii, V. I. -132
Zubkov, A. V. -105, 194
Zueva, M. U. - 444

HIGH ENERGY CHEMISTRY
Volume 1, 1967

(A translation of Khimiya Vysokikh Énergii)

CONTENTS

	PAGE	RUSS. PAGE
Volume 1, Number 1 January-February, 1967		
From the Editor	1	3
Mechanism of the Elementary Reaction Act of Hot Hydrogen Atoms – A. M. Brodskii and A. Ya. Temkin	2	4
Chemical Action of Hot Hydrogen Atoms on Isopropyl Ether – É. S. Filatov, L. Koltap, and An. N. Nesmeyanov	7	10
Photolysis of HI-C_2H_4 Mixtures. I. Kinetics and Mechanism of Formation of Hydrogen and Ethane in the Gas Phase – G. G. Dzantiev and A. P. Shvedchikov	11	14
Radiolysis of Aqueous Solutions of Benzene in the Presence of Ions of Metals of Variable Valence. I. Solutions in 0.4 M H_2SO_4, Containing Ferrous Ions and Oxygen – L. I. Kartasheva and A. K. Pikaev	18	22
Electron Paramagnetic Resonance Spectra of Aqueous Solutions Irradiated at Low Temperatures: IV. Electron Stabilization in Irradiated Neutral Vitreous Solutions of Electrolytes – B. G. Ershov and A. K. Pikaev	25	29
Radiation Chemistry of Chloroform Addition to Olefins – P. A. Zagorets, A. I. Zakhariev, and A. A. Beér	31	36
The Mechanism of Formation of New Bonds by Collisions between Electrons and Molecules – M. V. Gur'ev, L. V. Sumin, and S. A. Volkov	35	40
Radiation-Chemical Synthesis of Fluoroaryl Derivatives of Silicon – V. F. Evdokimov, I. Ya. Poddubnii, M. A. Sokolova, I. A. Kuzin, N. B. Zaitsev, and I. Yu. Tsereteli	40	46
Radiation Defects in Irradiated Specimens of Potassium Sulfate – V. V. Gromov and L. G. Karaseva	44	51
Spectroscopic Investigation of Radiation Processes in Rubbers at Low Temperatures – F. F. Sukhov, Z. F. Il'icheva, N. A. Slovokhotova, D. M. Margolin, and V. D. Terekhov	51	58
EPR Investigation into the Mechanism of Radiation Catalytic Processes on Synthetic Zeolites – Yu. A. Breslav, A. G. Kotov, and S. Ya. Pshezhetskii	56	65
Photoluminescence of Aromatic Compounds Irradiated at 77°K – V. A. Tochin, V. G. Nikol'skii, and N. Ya. Buben	61	71
Charge Stabilization during Low Temperature Radiolysis of Aromatic Hydrocarbons – V. A. Tochin and N. Ya. Buben	67	78
Dehydrogenation of n-Butane on Oxide Catalysts Irradiated by Neutrons – Vikt. I. Spitsyn and G. N. Pirogov	72	84
LETTERS TO THE EDITOR		
Increase in Radiation Stability of Aromatic Compounds during the Formation of Molecular Complexes – N. M. Katkova, V. K. Ermolaev, and N. M. Bazhin	74	87
Volume 1, Number 2 March-April, 1967		
Aleksandr Nikolaevich Terenin	77	of 91
Ionization and Dissociation of Excited Molecules — M. V. Gur'ev and S. E. Kupriyanov	78	91
Mass-Spectrometric Study of the Photoionization of Free α-Aminoacids — M. E. Akopyan and Yu. V. Loginov	83	97
Intensity Distributions in the Rotational and Vibrational Structure of the First Negative System of N_2^+ Bands Formed during Ion-Impact Dissociation of the N_2O Molecule — G. N. Polyakova and Ya. M. Fogel'	88	103

	PAGE	RUSS. PAGE
Photolysis of HI-C_2H_4-He Mixtures. II. Dependence of Rate of Ethane Formation on Temperature — B. G. Dzantiev and A. P. Shvedchikov	91	107
Photochemical and Radiochemical Addition of H_2S to Ethylene — B. G. Dzantiev and A. V. Shishkov	95	111
Reaction of Low-Energy Tritium (T^+) Ions with Solid Benzene — L. P. Firsova and Do Kim Tyung	99	116
Action of Light on Paramagnetic Particles in Irradiated Polystyrene — A. T. Koritskii and A. V. Zubkov	105	123
Luminescence of Organic Glasses Subjected to γ-Irradiation at a Low Temperature — Kh. S. Bagdasar'yan, R. I. Milyutinskaya, and Yu. V. Kovalev	108	127
Investigation of the Conversions of Rubbers with Additions of Sulfur in Radiolysis and Subsequent Photolysis — V. T. Kozlov, Z. N. Tarasova, and B. A. Dogadkin	115	136
On the Mechanism of the Radiolysis of Aqueous Solutions of Oxygen — V. N. Shubin and S. A. Kabakchi	121	142
Influence of pH on Stationary Concentrations of the Radiolysis Products of Aqueous Oxygen Solutions — S. A. Kabakchi, V. N. Shubin, and P. I. Dolin	127	148
Pulsed Radiolysis of Formamides — N. S. Fel', P. I. Dolin, and V. I. Zolotarevskii	132	154
The Electron Paramagnetic Resonance Spectra of Irradiated Frozen Aqueous Solutions. V. Aqueous Solutions of Formic Acid — O. F. Khodzhaev, B. G. Ershov, and A. K. Pikaev	139	161
The Mechanism for the Formation of the Dichloride Ion in the Radiolysis of Frozen Aqueous Solutions of Hydrochloric Acid — L. T. Bugaenko, A. A. Ryabova, and Chang Yen-An	145	168
The Dissociation of Nitrogen in a Glow Discharge Plasma — V. I. Svettsov, A. I. Maksimov, and G. P. Dobryakova	150	174
The Mechanism of Decomposition of the Alkali Metal Bromates and Nitrates by Shock Waves — V. V. Boldyrev, É. E. Zarko, and A. A. Deribas	153	177
LETTERS TO THE EDITOR		
Influence of the Temperature on the Stationary Concentration of the Products of the Radiolysis of Aqueous Solutions of Oxygen — S. A. Kabakchi, V. N. Shubin, and P. I. Dolin	156	181

Volume 1, Number 3 May-June, 1967

In Memoriam Vladislav Vladislavovich Voevodskii		
Generation of Ion Beams of HeF^+, HeF_2^+, and HeF_2^{++} — V. P. Bochin, N. V. Zakurin, and V. K. Kapyshev	159	187
Photolysis of Hydrogen Sulfide. Influence of Additions of Ethylene — B. G. Dzantiev and A. V. Shishkov	164	192
Two-Quantum and One-Quantum Processes in Polar Glasses at 77°K — V. A. Kondrat'ev and Kh. S. Bagdasar'yan	168	197
Oxidation of Fe^{2+} Ions in Aqueous Solutions Initiated by Radiation from a Ruby Laser — A. V. Egunov and V. V. Korobkin	172	202
Kinetics and Yields in the Radiational Decomposition of Gaseous Nitrogen Tetroxide — L. A. Dmitriev, S. A. Kamenetskaya, and S. Ya. Pshezhetskii	175	205
The Radiolysis of Succinic Acid — V. L. Glagolev and V. D. Shatrov	182	213
The Mechanism of Inhibitor Action in the Radiolysis of Cyclohexane — L. S. Polak, N. Ya. Chernyak, and A. S. Shcherbakova	188	220
A Heterolytic Mechanism for the Radiolysis of Peroxides — A. T. Koritskii and A. V. Zubkov	194	227
Comparative Study of the Radio- and Photo-Luminescence of Solid Organic Solutions — M. V. Alfimov and Yu. B. Shekk	201	235

	PAGE	RUSS. PAGE
An EPR Study of Paramagnetic Entities in γ-Irradiated Polytetrafluoroethylene — É. P. Klinshpont and V. K. Milinchuk	207	242
Peculiarities of the Stepwise Recombination of Radicals in Irradiated Polydimethylsiloxane — T. S. Fedoseeva and A. S. Kuz'minskii	212	248
Formation of Radicals in the α-Radiolysis of Frozen Aqueous Solutions of Perchloric Acid — V. N. Belevskii and L. T. Bugaenko	216	253
Influence of Temperature on the Radiolysis of Solid Potassium Nitrate with Impurities — V. M. Lykhin and V. V. Boldyrev	223	260
Pyrolysis of a Propane-Butane Mixture in a Plasma Jet — A. L. Suris and S. N. Shorin	226	264
The Thermal Decomposition of Tetrachlorosilane under Conditions of Adiabatic Compression and in a Plasma Stream — F. B. Burzel', L. S. Polak, and V. S. Shchipachev	230	268
Computer Solution of the Differential Equation System for the Pyrolysis of Methane in a High-Temperature Gas Jet with Consideration of Acetylene Quenching - L. S. Polak, Yu. L. Khait, and É. N. Chervochkin	237	275
BRIEF COMMUNICATIONS		
Kinetics of the Low-Temperature Photo-Induced Recombination of Paramagnetic Centers in Irradiated Glycine — E. N. Sud'bina, Ya. S. Lebedev, L. P. Kayushin, and M. K. Pulatova	242	281
Possibility of Using a Nuclear Charge Transfer Reaction of π^--Mesons in Chemical Investigations — V. I. Petrukhin, L. I. Ponomarev, and Yu. D. Prokoshkin	245	283
On the Radiation Decomposition of Aluminum and Magnesium Hydroxides — V. L. Glagolev, V. A. Gordeeva, G. M. Zhabrova, and B. M. Kadenatsi	247	285
CHRONICLES		
Seminar on the Radiation Chemistry of Water and Aqueous Solutions — V. G. Ershov and V. N. Shubin	249	286

Volume 1, Number 4 July-August, 1967

S. V. Starodubtsev	253	291a
Stabilization and Reactions of Slow Electrons in Irradiated Organic Solvents (Survey)—V. A. Roginskii and B. B. Kotov	254	291
The Two-Quantum Sensitized Photolysis of Some Organic Compounds at 77°K. Comparison with Radiolytic Data—Z. A. Sinitsyna and Kh. S. Bagdasar'yan	270	309
Radiolysis and Radiation-Induced Oxidation of Certain Aliphatic Amines—A. S. Fomenko, T. M. Abramova, É. P. Dar'eva, and A. A. Galins	274	314
Ultraviolet Absorption by Irradiated Carbohydrates—V. A. Generalova and A. Sultanov	279	320
Formation of Radicals during Low-Temperature Radiolysis of Certain Nitrogen-Containing Compounds—V. I. Trofimov and I. I. Chkheidze	282	324
On the Radiolysis of Aromatic Amino Acids, Their Mixtures and Peptides in the Solid Phase —G. A. Brodskaya and V. A. Sharpatyi	292	336
Mechanism of the Action of Aromatic Antirads on the Radiation-Induced Degradation of Polymethylmethacrylate—L. Ya. Borovkova and Kh. S. Bagdasar'yan	295	340
The Kinetics of the Recombination of Active Centers—A. A. Belyi and A. A. Ovchinnikov	300	346
Influence of Oxygen on the Formation of Free Radicals in Polymers during Irradiation by Ultraviolet Light—V. K. Milinchuk and É. R. Klinshpont	306	352
On the Role of Electronic Transitions in the Formation of Radicals in Frozen Aqueous Solutions of Ammonium Chloride—N. F. Shamonina and A. G. Kotov	312	359
Influence of Oxygen on the Yield of Molecular Products of the Radiolysis of Water—V. M. Byakov, F. S. Lapteva, M. A. Nezhevenko, and V. V. Chernyshev	316	363
Influence of Dose Rate on Yields and Steady-State Concentrations of the Products of Radiochemical Processes in Aqueous Solutions—S. A. Kabakchi and V. N. Shubin	320	368

	PAGE	RUSS. PAGE
Electron Paramagnetic Resonance Spectra of Irradiated Frozen Aqueous Solutions. VI. Aqueous Solutions of Aldehydes–B. G. Ershov, O. F. Khodzhaev, L. P. Grigor'eva, and A. K. Pikaev	325	374
The Role of Free Volume in Radiolysis and Thermal Decomposition of Ionic Crystals–K. M. Salikhov, A. A. Medvinskii, and V. V. Boldyrev	332	381
The Chemistry of Muonium. I. Study of the Temperature Dependence of the Chemical Reactions of Muonium–G. G. Myasishcheva, Yu. V. Obukhov, V. S. Roganov, and V. G. Firsov	337	387
The Chemistry of Muonium. II. Study of the Reactivity of Muonium in its Reaction with Substances of the Homologous Series of Halide-Aromatic Compounds–G. G. Myasishcheva, Yu. V. Obukhov, V. S. Roganov, and V. G. Firsov	340	390
The Chemistry of Muonium. III. Behavior of Muonium in Ionic Crystals–G. G. Myasishcheva, Yu. V. Obukhov, V. S. Roganov, L. Ya. Suvorov, and V. G. Firsov	343	394

Volume 1, Number 5 September-October, 1967

Mass Spectrometric Study of Fluorine-Containing Compounds. I. Comparative Study of Methylacetylene and Difluoromethylacetylene–M. M. Gil'burd, B. G. Syrvatka, V. U. Shevchuk, A. L. Bel'ferman, and F. B. Moin	359	411
Ion-Molecular Reactions in Aromatic Compounds. I. Benzene–L. I. Virin, Yu. A. Safin, and R. V. Dzhagatspanyan	364	417
Theory of Reactions between Hot Atoms and Polyatomic Molecules–A. Ya. Temkin	368	421
Chemistry of Hot Tritium Atoms in Binary Systems. Possible Reaction Mechanisms for Thermalized Tritons–É. S. Filatov, L. Koltan, and An. N. Nesmeyanov	374	428
Photoionization of Dye and Aromatic Hydrocarbon Molecules Adsorbed on ZnO, TlI, and AgBr–V. M. Bentsa and F. I. Vilesov	381	436
Investigation of the Mechanism of Photochemical Reactions of Electrophilic Substitution in the Aromatic Ring by the Method of Fluorescence–M. G. Kuz'min, V. L. Ivanov, and O. E. Yakimchenko	387	443
Radiolysis of Acetone. I. Liquid Phase–V. A. Larin, N. V. Veselovskaya, and N. A. Bakh	390	447
Radiochemical Chlorination of Paraffins. I. The Chlorination of n-Tetradecane –R. V. Dzhagatspanyan, V. I. Kosorotov, and M. T. Filippov	396	453
Rates of Liquid-Phase Radiation-Thermal Conversions of Aromatic Hydrocarbons –M. M. Florentiev, Yu. N. Aleksenko, and A. M. Brodskii	402	459
Formation of Radicals in the Low-Temperature Radiolysis of Certain Nitrogen-Containing Compounds. II. Nitrocompounds–V. I. Trofimov and I. I. Chkheidze	409	466
Nature of Electron Capture in the Radiolysis of Polar Systems–B. G. Ershov, I. E. Makarov, and A. K. Pikaev	414	472
Stabilization of an Electron in Aqueous Perchlorate Matrices in the Presence of Acceptors–L. T. Bugaenko and O. S. Povolotskaya	421	480
Accumulation and Annealing of Radiation Defects on the Surface of γ-Al_2O_3 –Yu. A. Kolbanovskii, M. N. Masterova, and L. S. Polyak	427	487
EPR Spectra in Irradiated Chlorates, Bromates, and Iodates of the Alkali Metals –L. V. Serikov, Yu. A. Zakharov, and A. A. Vorob'ev	431	491
Formation of Nitrogen Oxides in the Reaction of a Nitrogen Plasma Jet with Water –G. I. Kozlov, G. N. Khudyakov, and Yu. N. Kobzev	435	495
Study of the Kinetics of High-Temperature Decomposition of Molecules by the Monte Carlo Method–S. A. Denisik, S. N. Lebedev, Yu. G. Malama, and L. S. Polak	440	500
BRIEF COMMUNICATIONS		
Photosensitivity of the Paramagnetic Formations Which Arise during the Radiolysis of Halogen-Containing Rubbers–V. T. Kozlov, A. B. Kryukova, and M. U. Zueva	444	504

	PAGE	RUSS. PAGE
Migration of the Energy of Electronic Excitation along an Aliphatic Chain—I. G. Kaplan and V. G. Plotnikov	447	507
Effect of Substituents on the Radiation Stability of Aromatic Compounds—V. I. Trofimov, I. I. Chkheidze, and N. Ya. Buben	449	509
CHRONICLES		
All-Union Coordination Conference on Radiation Catalysis and the Effects of Ionizing Radiation on Semiconductors and Insulators—G. M. Zhabrova, A. M. Kabakchi, and I. N. Chervetsova	450	510

Volume 1, Number 6 November-December, 1967

Studies of Soviet Scientists on High-Energy Chemistry	453	515
Mechanism for the Dissociation of Organic Molecules upon Electron Impact. Kinetic Energy of the Fragment Ions Formed from n-Hexane, n-Octane and Their Perfluoro Derivatives—L. V. Sumin and M. V. Tikhomirov	460	524
Intermediate States in the Photochemical Reactions of Dyes. I. Initial Changes in Safranine T Caused by Pulsed Illumination—A. K. Chibisov, B. V. Skvortsov, A. V. Karyakin, and N. N. Shvindt	465	529
Photochemistry of Free Radicals. EPR Spectra of Radicals in γ-Irradiated Ethylamines and Photolysis of the Radicals at 77° K—G. V. Pukhal'skaya, A. G. Kotov, and S. Ya. Pshezhetskii	471	536
Radiation-Chemical Stability of Some Peptides—A. Sultanov and V. A. Sharpatyi	475	541
Radiolysis of Vitreous Aqueous Solutions of Nitrate at 77° K—B. G. Ershov, É. Lyu, and A. K. Pikaev	478	544
Effect of Irradiation on Metal Salts and Hydroxides during Their Preparation. I. Barium Sulfate—Vikt. I. Spitsyn, A. A. Balandin, L. I. Barsova, and B. G. Ershov	484	551
Radiolysis of Molten Potassium and Sodium Nitrates—V. M. Moralev and L. T. Bugaenko	489	557
Investigation of the Temperature Dependence of the Electrical Conductivity of Polymers Previously Irradiated at Low Temperature—V. P. Sichkar', S. É. Vaisberg, and V. L. Karpov	493	561
Electrical Conductivity of Paraffin under Irradiation—E. L. Frankevich	497	567
Mechanism of the Electrical Conductivity Generated by Irradiating Organic Dielectrics Containing a Large Number of Traps—E. L. Frankevich	501	572
Factors Which Determine the Radiation-Catalytic Conversion of Organic Compounds Adsorbed on Dielectrics—V. I. Vladimirova, G. M. Zhabrova, B. M. Kadenatsi, P. G. Krivenkova, and I. E. Neimark	504	576
Thermal and Radiation Adsorption of Carbon Dioxide on γ-Aluminum Oxide —Yu. A. Kolbanovskii and V. I. Shaburkina	510	583
High-Temperature Fixation of Nitrogen Oxides—V. A. Reisig, S. A. Stadnik, and G. M. Shchegolev	514	587
Computer Selection and Kinetic Analysis of a Complex Chemical Reaction, on the Example of Radiational Isotope Exchange of Deuterium with Silica Gel Hydroxyl Groups—S. G. Gagarin, Yu. A. Kolbanovskii and L. S. Polak	518	592
Effect of the Value of the Rate Constants of the High-Temperature Decomposition of Methane and Ethylene on the Numerical Solution of a System of Equations Describing the Conversion of Methane into Acetylene—L. S. Polak, Yu. L. Khait, and É. N. Chervochkin	526	601
BRIEF COMMUNICATIONS		
Influence of Temperature on the Yield of Chlorine in the Radiolysis of HCl Solutions —A. A. Ryabova and L. T. Bugaenko	529	605

	PAGE	RUSS. PAGE
Formation of $^{135}XeO_3$ in the β-Decay of Iodine-135 Contained in Alkali Metal Periodates —Yu. K. Gusev, V. K. Isupov, and I. S. Kirin	531	606
INDEX		
Author Index, Volume 1, 1967	535	
Table of Contents, Volume 1, 1967	537	